



Objective

The fast growth of non-standard working arrangements in advanced countries highlights the importance of studying the influence of non-standard work arrangements indicators on employee’s health and safety. Our study purpose is to investigate whether or not Belgian shift workers have more absence due to work accidents than workers from regular daytime schedules, using a representative Belgian sample and taking into account several sociodemographic and work characteristics.

Study design

Organization

Eurofound

Questionnaire

5th European working condition survey (EWCS) 2010

Sample number

From 43816 persons in EWCS only 3343 workers included

For the purpose of this analysis, the analytical sample was restricted to a subgroup of 3343 respondents from Belgium, who were all employed workers.

Results

Characteristics of the study population (n =3343)

| Individual and work-related factors | Total study sample n (%) |
|-------------------------------------|--------------------------|
| Mean age / yr (SD) | 39.42 (10.91) |
| Gender | |
| Male | 1769 (52.9) |
| Female | 1574 (47.1) |
| Work-related accident absence | |
| No | 1973 (88.3) |
| Yes | 262 (11.7) |
| Contract type | |
| Precarious contract | 428 (13.1) |
| Permanent contract | 2847 (86.9) |
| Long hours | |
| Long hours | 202 (6.1) |
| Normal hours | 3087 (93.9) |
| Multiple jobs | |
| No | 3026 (90.9) |
| Yes | 303 (9.1) |
| Shift work | |
| No | 2815 (84.4) |
| Yes | 520 (15.6) |

Calculated according to the percentage of the valid count

Odds ratios OR and 95% confidence intervals [95% CI] for work-related accident absence from multivariate logistic regression model with non shift workers as reference group.

| Model 3 | |
|--|-----------------------|
| Shift work Yes Vs.no ^c | 1.546 [1.074- 2.224]* |
| Gender Men Vs. women ^c | 0.752 [0.561- 1.007] |
| Age | 1.014 [0.996- 1.032] |
| Self-rated health Bad Vs.good ^c | 2.153 [1.531- 3.028]* |
| Education Low Vs. high ^c | 2.420 [1.044- 5.607]* |
| Work experience (Continuous) | 0.986 [0.966- 1.006] |
| Company size Small Vs. large ^c | 0.739 [0.442- 1.236] |
| Economic activity Construction Vs. services ^c | 1.866 [1.119- 3.111]* |
| Overall fatigue Yes Vs. no ^c | 1.263 [0.905- 1.763] |
| Sleep difficulties Yes Vs. no ^c | 0.896 [0.614- 1.308] |
| Risk information Not well informed Vs. well informed ^c | 1.194 [0.799- 1.784] |
| Physical exposure (PH) Yes Vs. no ^c | 0.748 [0.535- 1.045] |
| Chemical exposure (CH) Yes Vs. no ^c | 1.211 [0.857- 1.711] |
| Biological exposure (BL) Yes Vs. no ^c | 0.693 [0.463- 1.037] |
| Biomechanical exposure (BM) Yes Vs. no ^c | 1.670 [1.225- 2.277]* |

Model 3: adjusted for socio-demographic factors and, in addition, for all work-related factors. The proportion of the explained variance of the multivariate model is 10.7 % = 0.107 (Nagelkerke R Square) for work-related accident absence. C: reference category

Conclusions

- ❖Shift work was significantly associated with work- related accident absence.
- ❖To reduce the burden of occupational injuries, not only risk reduction strategies and interventions are needed but also policy efforts should be undertaken to limit shift work.
- ❖These findings could be used as an important element in creating and implementing health and safety policies at the Belgian and international levels.